

CLAIMS

What is claimed is:

- 1 1. A method for transferring data between a control object of a user interface and an
2 application component of an application program without direct communication between
3 the user interface and the application program, the method comprising:
4 accessing, by an application-independent process, from a description file associated
5 with the application program one of (i) a layout description of the control object that is
6 displayed on the user interface and (ii) a connection description associating the control
7 object with the application component of the application program; and
8 transferring data representative of a change to one of the application component
9 and the control object.
- 1 2. The method of claim 1 further comprising translating content of the description file,
2 by the application-independent processes, to generate the control object and to associate
3 changes represented by the transferred data with one of the control object and the
4 application component.
- 1 3. The method of claim 1 further comprising establishing a communication channel
2 between the application-independent client process and the application-independent
3 server process.
- 1 4. The method of claim 3 wherein the communication channel is asynchronous.
- 1 5. The method of claim 1 wherein the description file is in XML format.

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1 6. The method of claim 1 further comprising generating an instance of the control
2 object.

1 7. The method of claim 1 wherein the application component comprises a member
2 representative of an attribute of the application component alterable by a user or
3 displayable to the user, further comprising generating an instance of management code,
4 the management code instance mapping the correspondence between the control object
5 and the application component member.

1 8. The method of claim 1 further comprising generating a container object for each
2 application component and control object.

1 9. The method of claim 1 wherein the application component comprises a member
2 representative of an attribute of the application component alterable by a user or
3 displayable to the user, further comprising:
4 monitoring the application component member and the control object; and
5 transferring data in response to a change of state of one of the application component
6 member and the control object.

1 10. The method of claim 1 wherein the application component comprises a member
2 representative of an attribute of the application component alterable by a user or
3 displayable to the user, further comprising:
4 generating a unique identifier for one of the application component member and the
5 control object; and
6 referencing the unique identifier in a proxy layer.

1 11. A server node to enable the update of a user interface element of a user interface
 2 without direct interaction between an application program and the user interface, the
 3 server node comprising:
 4 a description file associated with the application program, the description file
 5 including one of (i) a layout description of the user interface element and (ii) a connection
 6 description associating a control object of the user interface with an application
 7 component of the application program; and
 8 an application-independent process in communication with the application program, the
 9 application-independent process accessing the description file, detecting a change of state
 10 to the application component and transferring data in response to a detected change of
 11 state of the application component.

1 12. The server node of claim 11 wherein the application-independent process is further
 2 configured to update the application component in response to received data, the received
 3 data representing a change of a state of the associated control object of the user interface
 4 on a client.

1 13. The server node of claim 11 wherein the description file is in XML format.

1 14 (Amended) The server node of claim 12 wherein the application component
 2 comprises a member representative of an attribute of the application component alterable
 3 by a user or displayable to the user; and wherein the application-independent process
 4 further comprises an instance of management code, the management code instance

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5 mapping the correspondence between the application component member and a control
6 object located on a client.

1 15. (Amended) The server node of claim 11 further comprising a container object for
2 each application component.

1 16. (Amended) The server node of claim 11 wherein the application component
2 comprises a member representative of an attribute of the application component alterable
3 by a user or displayable to the user; and wherein the application-independent process
4 further comprises a container object monitoring the application component member
5 associated with that container object and initiating data transfer in response to a change of
6 state of the associated application component member.

1 17. (Amended) The server node of claim 11 wherein the application component
2 comprises a member representative of an attribute of the application component alterable
3 by a user or displayable to the user; and wherein the server node further comprises a
4 proxy layer referencing a unique identifier for the application component member.

1 18. (Amended) A client node to enable the update of a user interface element of a user
2 interface without direct interaction between an application program and the user interface,
3 the client node comprising:

4 a description file associated with the application program, the description file
5 including one of (i) a layout description of the user interface element and (ii) a connection
6 description associating a control object of the user interface with an application
7 component of the application program; and

8 an application-independent process in communication with a server, the
9 application-independent process accessing the description file, generating a control object
10 associated with the application component based on the description file and updating the
11 user interface in response to receiving data representing a detected change of state of the
12 application component.

1 19. (Amended) The client node of claim 18 wherein the application-independent process
2 is further configured to detect a change of state of the user interface and to transfer data to
3 the application-independent server process in response to the detected change.

1 20. (Amended) The client node of claim 18 wherein the description file is in XML
2 format.

1 21. (Amended) The client node of claim 18 wherein the application-independent process
2 further comprises an instance of a control object for each of a plurality of user interface
3 elements, the control object instance representing a corresponding user interface element.

1 22. (Amended) The client node of claim 18 further comprising a container object for the
2 control object.

1 23. (Amended) The client node of claim 18 further comprising a container object
2 monitoring the control object associated with the container object and initiating data
3 transfer in response to a change of state of the associated control object.

1 24. (Amended) The client node of claim 18 further comprising a proxy layer referencing
2 a unique identifier for the control object.

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